Please amend the application as follows:

In the Specification:

Please replace the paragraph spanning lines 13-22 of page 4 with the following paragraph:

C1

The present invention also provides isolated nucleic acid molecules comprising a polynucleotide encoding at least a portion of the TNF-gamma-beta polypeptide having the complete amino acid sequence shown in SEQ ID NO:20 or the complete amino acid sequence encoded by the cDNA clone HEMCZ56 deposited as plasmid DNA as ATCC Deposit Number 203055 on July 9, 1998. The nucleotide sequence determined by sequencing the deposited TNF-gamma-beta clone, which is shown in Figures 20A and B (SEQ ID NO:20), contains an open reading frame encoding a complete polypeptide of 251 amino acid residues, including an initiation codon encoding an N-terminal methionine at nucleotide positions 1-3, and a predicted molecular weight of about 28,089 Da.

Please replace the paragraph spanning lines 4-22 of page 5 with the following paragraph:

C2

In another embodiment, the invention provides an isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence selected from the group consisting of: (a) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence in SEQ ID NO:20 (i.e., positions 1 to 251 of SEQ ID NO:20); (b) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid sequence in SEQ ID NO:20 excepting the N-terminal methionine (i.e., positions 2 to 251 of SEQ ID NO:20); (c) a nucleotide sequence encoding the mature TNF-gamma-beta polypeptide having the amino acid sequence in SEQ ID NO:20 shown as positions 62 to 251 of SEQ ID NO:20; (d) a nucleotide sequence encoding the TNF-gamma-beta polypeptide having the complete amino acid encoded by the cDNA clone HEMCZ56 contained in ATCC Deposit No. 203055; (e) a nucleotide sequence encoding the TNF-gamma-alpha polypeptide having the complete amino acid sequence excepting the N-terminal methionine encoded by the cDNA clone

HEMCZ56 contained in ATCC Deposit No. 203055; (f) a nucleotide sequence encoding the mature TNF-gamma-beta polypeptide having the amino acid sequence encoded by the cDNA clone HEMCZ56 contained in ATCC Deposit No. 203055; and (g) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d), (e) or (f), above.

C2 cont

Please replace the paragraph spanning lines 20-27 on page 10 with the following paragraph:

Figures 2A-C illustrate an amino acid sequence alignment between TNF-gamma-alpha (SEQ ID NO:2) and other members of the TNF family including human TNF-alpha (GenBank No. Z15026; SEQ ID NO:3), human TNF-beta (GenBank No. Z15026; SEQ ID NO:4), human lymphotoxin-beta (LTbeta; GenBank No. L11016; SEQ ID NO:5), and rat Fas Ligand (FASL: GenBank No. U034070; SEQ ID NO:6). TNF-gamma contains the conserved amino acid residues of the TNF family as shown by the boxed and shaded areas. The aligned molecules are presented in their entirety as Figures 2A, 2B, and 2C.

C3

Please replace the paragraph spanning lines 8-23 on page 31 with the following paragraph:

Preferred, however, are nucleic acid molecules having sequences at least 70%, 80%, 90%, 95%, 96%, 97%, 98% or 99% identical to the nucleic acid sequence shown in Figures 1A and B (SEQ ID NO:1), Figures 20A and B (SEQ ID NO:19), or to the nucleic acid sequence of the deposited cDNA clones, or fragments thereof, which do, in fact, encode a polypeptide having TNF-gamma functional activity. By "a polypeptide having TNF-gamma functional activity" is intended polypeptides exhibiting activity similar, but not necessarily identical, to an activity of the TNF-gamma polypeptide of the invention (either the full-length protein or, preferably, the mature protein), as measured in a particular immunoassay and/or biological assay. For example, TNF-gamma activity can be measured using an apoptosis assay as described in Example 7, by determining the relative ability of TNF-gamma to inhibit the FGF-2-induced formation of capillary-like tubular structure formation in cultures of ABAE cells as described in detail in Example 9 or in a chorioallantoic membrane (CAM) angiogenesis assay as described in Example 10, by its effect(s) on the activation of cellular NF-□B and c-Jun kinase (JNK) as described in

C4

C4 Cont Example 12, and in several additional ways described in the remaining Examples and in the art.

Please replace the paragraph spanning lines 21-36 on page 39 with the following amended paragraph:

sub E1 The remaining TNF-gamma-alpha expression constructs were used to express various TNF-gamma muteins from bacterial, baculoviral, and mammalian systems. Four N-terminal deletion mutations have been generated using the pQE60 bacterial expression vector. These N-terminal deletion mutation constructs are: (i) pQE60TNFg-3/147 (representing a possible mature TNF-gamma polypeptide; the polypeptide expressed by this construct is identical to amino acid residues 107-251 of the TNF-gamma-beta of SEQ ID NO:20), (ii) pQE60TNFg12/147 (representing amino acid residues 12-147 of SEQ ID NO:2 and residues 116-251 of SEQ ID NO:20), (iii) pQE60TNFg22/147 (representing amino acid residues 22-147 of SEQ ID NO:2 and residues 126-251 of SEQ ID NO:20), and (iv) pQE60TNFg28/147 (representing amino acid residues 28-147 of SEQ ID NO:2 and residues 132-251 of SEQ ID NO:20). Each of these expression constructs can be used to produce a TNF-gamma polypeptide in a bacterial system which exhibits an N-terminal deletion of 24, 38, 48 and 54 amino acids, respectively, with regard to the full-length TNF-gamma-alpha polypeptide or an N-terminal deletion of 106, 115, 125, and 131 amino acids, respectively, with regard to the full-length TNF-gamma-beta polypeptide.

C5

Applicants have requested that the paragraph spanning lines 8-21 on page 42 be amended as follows:

C6 The terms "fragment," "derivative" and "analog" when referring to the polypeptides of Figures 1A and 1B or Figures 20A and 20B, and those polypeptides encoded by the deposited cDNAs, means a polypeptide which retains a TNF-gamma functional activity, i.e., displays one or more functional activities associated with a full-length and/or mature TNF-gamma polypeptide disclosed in Figures 1A and B (SEQ ID NO:2), Figures 20 A and B (SEQ ID NO:20), and/or encoded by one or both of the deposited clones (HUVEO91 and HEMCZ56). As one example, such fragments, derivatives, or analogs, which have the desired immunogenicity or antigenicity can be used, for example, in immunoassays, for immunization, for inhibition of TNF-gamma activity, etc. Thus, a specific embodiment of the invention relates to a TNF-gamma

fragment that can be bound by an antibody that specifically binds the TNF-gamma polypeptide sequence disclosed in Figures 1A and B (SEQ ID NO:2), Figures 20 A and B (SEQ ID NO:20)), and/or which is encoded by one or both of the deposited clones (HUVEO91 and HEMCZ56).

C6 Cont

Please replace the paragraph spanning lines 3-19 on page 49 with the following amended paragraph:

Antigenic epitope-bearing peptides and polypeptides of the invention preferably contain a sequence of at least seven, more preferably at least nine and most preferably between about 15 to about 30 amino acids contained within the amino acid sequence of a polypeptide of the invention. Non-limiting examples of antigenic polypeptides or peptides that can be used to generate TNF-gamma-specific antibodies include: a polypeptide comprising amino acid residues from about Thr-24 to about Asn-32 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Ile-37 to about Ile-45 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Met-54 to about Arg-62 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Gln-63 to about Asp-71 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Glu-57 to about Gly-65 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Val-80 to about Thr-88 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about Leu-116 to about Val-124 in SEQ ID NO:2; and a polypeptide comprising amino acid residues from about Asp-133 to about Phe-141 in SEQ ID NO:2. These polypeptide fragments have been determined to bear antigenic epitopes of the TNF-gamma protein by the analysis of the Jameson-Wolf antigenic index, as shown in Figure 17, above.

C7

Applicants have requested that the paragraph spanning lines 18-25 on page 56 be amended as follows:

Several amino acids of the TNF-gamma polypeptide are highly conserved across the known members of the TNF-related protein family. By making a specific mutation in TNF-gamma in such residues as tryptophan-15 (as numbered in SEQ ID NO:2), leucine-35, glycine-41, tyrosine-43, tyrosine-46, glutamine-48, leucine-90, leucine-116,

C8